LINAC COMMISSIONING FORM 26-sep-2001

Major Category: Matching to DTL input plane

Sub-Category: Beam

Sub-System (e.g. beam emittance, or BPM etc.): Beam profiles and emittance scan

Objective: Optimize transverse MEBT to DTL matching

Requested by: A.Aleksandrov, D.Jeon

Date Proposed:

Estimated Time to Complete: 10 shifts

Estimated Manpower to Complete: 20 man-shifts

Priority/Order: high/2   1

Basic Equipment Needs (e.g. which diagnostics): Slit/collector emittance monitor on the D-plate

Special Equipment Needs:

Software/Application needs: Emittance measurement software,

Input Beam Requirements: 20mA, 20μs, 1Hz unchopped beam

Other prerequisites:

Correlations Sought: Transverse Twiss parameters of the DTL output beam vs. quads Q11-Q14 settings

Procedure: Measure transverse Twiss parameters using D-plate slit/collector device. Scan Q11-Q14 settings over 4D array around nominal value and archive corresponding output Twiss parameters. Find optimal setting providing minimum output emittance. Verify with beam profile monitors.

Supporting Computations: PARMILA simulations

Problems Expected:

Comments:

Date Completed LANL: **Date Completed ORNL:**

Results:

Problems Encountered: